WHAT IS CLAIMED IS:

1. A manufacturing mold having a portion thereof including a manifold containing one or more sprues or runners, the manifold being formed of a steel alloy comprising:

about .16 percent to about .2 percent by weight carbon;

about .6 percent to about .9 percent by weight manganese;

a maximum of .02 percent by weight phosphorous;

a maximum of .02 percent by weight sulfur;

from about .25 percent to about .45 percent by weight silicon;

from about 2.3 percent to about 2.7 percent by weight chromium;

a maximum of .2 percent by weight nickel;

a maximum of .15 percent by weight copper;

a maximum of .1 percent by weight molybdenum;

from about .015 percent to about .03 percent by weight aluminum; and

the balance being iron with trace amounts of ordinarily present elements.

2. The manifold of Claim 1 wherein the alloy has a hardness within the range of from about 277 to about 311 BHN.

3. A tool steel alloy, the alloy being comprised of from about .16 percent to about .2 percent by weight carbon, from about .6 percent to about .9 percent by weight manganese, a maximum of .02 percent by weight phosphorous, a maximum of .02 percent by weight sulfur, from about .25 percent to about .45 percent by weight silicon, from about 2.3 percent to about 2.7 percent by weight chromium, a maximum of .2 percent by weight nickel,

a maximum of .15 percent by weight copper, a maximum of .1 percent by weight molybdenum, from about .015 percent to about .03 percent by weight aluminum and the balance being iron with residual impurities wherein the alloy has a hardness within the range of from about 277 to about 311 BHN.

4. The steel alloy of Claim 3 wherein the carbon is in a range of from about .17 to about .19 percent by weight.

5. The steel alloy of Claim 4 wherein the carbon is about .18 percent by weight.

6. The steel alloy of Claim 3 wherein the manganese is in a range of from about .7 to about .8 percent by weight.

7. The steel alloy of Claim 6 wherein the manganese is about .75 percent by weight.

8. The steel alloy of Claim 3 wherein the silicon is in a range of from about .3 to about .4 percent by weight.

9. The steel alloy of Claim 8 wherein the silicon is about .35 percent by weight.

10. The steel alloy of Claim 3 wherein the chromium is in a range of from about 2.4 to about 2.6 percent by weight.

11. The steel alloy of Claim 10 wherein the chromium is about 2.5 percent by weight.

12. The steel alloy of Claim 3 wherein the aluminum is about .02 percent by weight.

13. A tool steel alloy, the alloy consisting essentially of from about .16 percent to about .2 percent by weight carbon, from about .6 percent to about .9 percent by weight manganese, a maximum of .02 percent by weight phosphorous, a maximum of .02 percent by weight sulfur, from about .25 percent to about .45 percent by weight silicon, from about 2.3 percent to about 2.7 percent by weight chromium, a maximum of .2 percent by weight nickel, a maximum of .15 percent by weight copper, a maximum of .1 percent by weight molybdenum, from about .015 percent to about .03 percent by weight aluminum and the balance being iron with residual impurities wherein the alloy has a hardness within the range of from about 277 to about 311 BHN.

14. The steel alloy of Claim 13 wherein the carbon is in a range of from about .17 to about .18 percent by weight.

15. The steel alloy of Claim 13 wherein the manganese is in a range of from about .7 to about .8 percent by weight.

16. The steel alloy of Claim 13 wherein the silicon is in a range of from about .3 to about .4 percent by weight.

17. The steel alloy of Claim 13 wherein the chromium is in a range of from about 2.4 to about 2.6 percent by weight.

18. The steel alloy of Claim 13 wherein the aluminum is about .02 percent by weight.

19. A process for manufacturing a mold tool from the alloy having the composition claimed in Claim 1, the process comprising the steps of:

a) preparing a material charge;

b) melting the material charge in an electric furnace; and

c) ladle refining the melted material to remove impurities and homogenize the melted material;

d) removing gases from the melted material by vacuum degassing.

e) pouring the melted material into ingot molds using an argon shield;

f) shaping the material by rolling or forging into a desired shape of the tool;

g) hot leveling the steel after rolling;

h) cooling the steel by free air cooling to a temperature below about 600 °F; and

i) tempering the tool to a harness in the range of from about 277 to about 311 BHN.

20. A process for manufacturing a tool from the alloy having the composition claimed in Claim 13, the process comprising the steps of:

a) preparing a material charge;

b) melting the material charge in an electric furnace; and

c) ladle refining the melted material to remove impurities and homogenize the melted material;

d) removing gases from the melted material by vacuum degassing.

e) pouring the melted material onto a rolling mill using an argon shield;

f) shaping the material by rolling into a desired shape of the tool;

g) hot leveling the tool after rolling;

h) cooling the tool by free air cooling to a temperature below about 600 °F; and

i) tempering the tool to a harness in the range of from about 277 to about 311 BHN.